THE SCIENCE OF ENERGY BALANCE: CALORIE INTAKE AND PHYSICAL ACTIVITY

New York State Science Core Subject Learning Standards: Intermediate Level		
Lesson	**Standard**	**Description**
1, 2, 3	**3**	(Physical setting) Observe and describe energy changes as related to chemical reactions.
3	**1**	(Living Environment) Explain the functioning of the major human organ systems and their interactions.
3, 4	**3**	(LE) Describe sources of variation in organism and their structures and relate the variations to survival.
3, 4	**5**	(LE) Compare the way a variety of living specimens carry out basic life functions and maintain dynamic equilibrium.
3, 4, 5	**5**	(LE) Describe the importance of major nutrients, vitamins, and minerals in maintaining health and promoting growth and explain the need for a constant input of energy for living organisms.
3, 4, 5	**7**	(LE) Describe the effects of environmental changes on humans and other populations.
New York State English Language Core Subject Learning Standards: Intermediate Level		
All lessons	**1**	Relate new information to prior knowledge and experience.
All lessons	**1**	Make distinctions about the relative value and significance of specific data, facts, and ideas.
All lessons	**3**	Analyze, interpret, and evaluate ideas, information, organization, organization, and language from academic and nonacademic texts.
3, 4, 5	**3**	Develop arguments with effective use of details and evidence that reflect a coherent set of criteria.
New York State Mathematics Core Subject Learning Standards: Intermediate Level		
All lessons	**1**	Apply a variety of reasoning strategies.
All lessons	**1**	Make conclusions based on inductive reasoning.
1, 2, 3, 4	**2**	Understand, represent, and use numbers in a variety of equivalent forms (integer, fraction, decimal, percent, exponential, expanded and scientific notation).
1, 2, 3, 4	**2**	Understand and apply ratios, proportions, and percents through a wide variety of hands-on explorations.

1, 2, 3, 4	**3**	Add, subtract, multiply, and divide fractions, decimals, and integers.
1, 2, 3, 4	**3**	Apply concepts of ratio and proportion to solve problems.
1, 2, 3, 4	**4**	Represent numerical relationships in one- and two-dimensional graphs.
2, 3, 4	**6**	Use simulation techniques to estimate probabilities.
New York State Interdisciplinary Problem Solving Learning Standards: Intermediate Level		
4, 5	**1**	Analyze science/technology/society problems and issues that affect home, school, or community, and carry out a remedial course of action.
All lessons	**1**	Observe phenomena and evaluate them scientifically and mathematically by conducting a fair test of the effect of variables and using mathematical knowledge and technological tools to collect, analyze, and present data and conclusions.
New York State Health Core Subject Learning Standards: Intermediate Level		
4, 5	**1**	Apply prevention and risk reduction strategies to adolescent health problems.
3, 5	**1**	Demonstrate the necessary knowledge and skills to promote healthy adolescent development.
3, 4, 5	**1**	Analyze the multiple influences which affect health decisions and behaviors.
3, 4, 5	**1**	Understand the health benefits of regular participation in activity.
2, 3, 4, 5	**1**	Understand the relationships among diet, health, and physical activities; evaluate their own eating patterns; and use appropriate technology to make food selections.
3, 4, 5	**1**	Apply decision-making processes to dilemmas related to personal health.
3, 4	**2**	Demonstrate personal and social skills which enhance personal health and safety.
New York State Interconnectedness: Common Themes Learning Standards: Intermediate Level		
2, 3, 4	**2**	Use models to study processes that cannot be studied directly.
2, 3, 4	**2**	Demonstrate the effectiveness of different models to represent the same thing and the same model to represent different things.
1, 3, 4	**5**	Use simple linear equations to represent how a parameter changes with time.